regulate the quantity of tho reducing agents which an*, added to the charge in tho form of pig iron, that they contain exactly the balance for the oxidising action of tho flame, and tho employment of large amounts of oro is not. requisite. If this has been well adjusted, tho conditions for tho host working results have been created.

This may, however, bo equally woll achieved when employ-ing the most varied kinds of pig iron, highly phosphoric, excepted, and owing to this, tho open-hearth process possesses a great advantage over thopnoumatit* refining methods, which are only able to be conducted with pig irons of quite definite composition, with the result of variations bo.ing permissibly only within quite narrow limits.

Also, the chemical composition of the wrap for the, basic, open-hearth procons is quite immaterial ; hut the external condition of tho same has a certain importance. Neither loo large nor too small pieces aro most convenient for manual working. Rusty charges come into consideration in so fur an owing to them an increase in percentage, of reducing agents, and thus of pig iron, is required, ami that involves in the case of the production of a first-class quality ait increase in tho manganese content of tho mixture.

furnaces were charged by hand until recently, and them good scrap meant an economy of time in charging, but by employing charging niadiiww, thin condition, of '/oursg, vanishes. Nevertheless, in this cane also, iiuidiuw-si/ed swap possesses an advantage*, since molting down takes place more rapidly than if very largo or very small pieces are employed.

A good charge, of full weight* melts in three in four hours; soon thereafter tho boil begins, which, if the pig tmit percentage has been correctly adjusted, rearheH its higlmnt point after about half-an-hour, and thereafter diminishes again* In about a further half-hour tho boil hewmeH quite faint; thii bath has reacted throughout, and ban thereby t»nw«» up to tho necessary temperature for casting; and ihe slug is exltaii.Htcid of oxides. In former times no attention wan jmio! to the latfcur condition. A harmful inllumice on thn initial WHH always attributed to tho Hlag, and therefore it was nought to nwiovo it as much as possible from the furnace httfnro protruding with